
**VETERANS HEALTH ADMINISTRATION
OFFICE OF PATIENT CARE SERVICES
TECHNOLOGY ASSESSMENT PROGRAM**

**BRIEF OVERVIEW:
SYSTEMATIC REVIEWS FOR PATIENT-CENTERED CARE**

August 2010

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A SUMMARY FOR HTA REPORTS
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This summary form is intended as an aid for those who want to record the extent to which a HTA report meets the 17 questions presented in the checklist[®]. It is NOT intended as a scorecard to rate the standard of HTA reports – reports may be valid and useful without meeting all of the criteria that have been listed.

BRIEF OVERVIEW
Systematic Reviews for Patient-Centered Care
(AUGUST 2010)

Item	Yes	Partly	No
Preliminary			
1. Appropriate contact details for further information?	√		
2. Authors identified?	√		
3. Statement regarding conflict of interest?			√
4. Statement on whether report externally reviewed?	√		
5. Short summary in non-technical language?	√		
Why?			
6. Reference to the question that is addressed and context of the assessment?	√		
7. Scope of the assessment specified?	√		
8. Description of the health technology?	√		
How?			
9. Details on sources of information?	√		
10. Information on selection of material for assessment?	√		
11. Information on basis for interpretation of selected data?	√		
What?			
12. Results of assessment clearly presented?	√		
13. Interpretation of the assessment results included?	√		
What Then?			
14. Findings of the assessment discussed?	√		
15. Medico-legal implications considered?		√	
16. Conclusions from assessment clearly stated?	√		
17. Suggestions for further actions?	√		

TECHNOLOGY ASSESSMENT PROGRAM

An Effective Resource for Evidence-based Managers

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VATAP has two categories of products directed toward meeting the urgent information needs of its VA clients. VATAP assigns a category to each new request based largely on the availability of studies from results of initial searches of peer-reviewed literature databases and the client’s information needs:

- The **Brief overview** originated as an internal memo to VA clients with both well-defined and urgent information needs. It usually comprises 2 to 10 pages and assumes sufficient existing knowledge regarding clinical context and technology issues by its readers so that explanation of these components, found in other VATAP products, are omitted. It often requires some additional reading of documents (provided to the client with the overview) to obtain a full and comprehensive picture of the state of knowledge on the topic.
- The **Bibliography** is a selection of quality-filtered references of about 3 to 5 pages in length, not subject to external review. In addition to a reference list, it includes a brief synopsis about the policy issue at hand, background on the topic to provide clinical context, and search and retrieval methodology. It does not include in-depth analysis.

VATAP’s physician advisor and/or key experts in VHA review VATAP products, excluding bibliography reports. Additional comments and information on this report may be sent to:

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ABBREVIATIONS

AHRQ,	Agency for Healthcare Research and Quality (US)	IPC,	interpersonal processes of care
ATSM,	Automated telephone self-management support	ITT,	intention to treat
BP,	blood pressure	LDL,	low-density lipoprotein
CDSMP,	Chronic Disease Self-Management Programme	LOS,	length of (hospital) stay
CEA,	cost-effectiveness analysis	MD,	mean difference
CCT,	controlled clinical trial	MODY,	maturity onset diabetes of the young
CI,	95% confidence interval	NNT,	number needed to treat
CHF,	congestive heart failure	NS,	not (statistically) significant
CMA,	continuous medication adherence (index)	OR,	odds ratio
COPD,	chronic obstructive pulmonary disease	PACIC,	patient assessment of chronic illness care
DBP,	diastolic blood pressure	PCS,	Patient Care Services
DSM,	Diagnostic and Statistical Manual of Mental Disorders	PEF,	peak expiratory flow
ED/EDS,	emergency department/services	PIPS,	patient involvement in patient safety
EPC,	evidence-based practice center	QALY,	quality-adjusted life year
FEV1,	forced expiratory volume in 1 second	RCT,	randomized controlled trial
FU,	follow-up	RR,	relative risk
GMV,	group medical visits	SBP,	systolic blood pressure
GP,	general practitioner	SDM,	shared decision making
HAART,	highly active retroviral therapy	SMD,	standardized mean difference
HbA1c/A1C,	Glycated hemoglobin	SMS,	self-management support
HIV,	human immunodeficiency virus	TAP,	Technology Assessment Program
HRQoL,	health-related quality of life	TASMINH2,	tele-monitoring and self-management in the control of hypertension
ICD-10,	International Classification of Diseases (10 main groups)	QoL,	quality of life
ICU,	intensive care unit	US,	United States
IHCA,	interactive health communication application	UK,	United Kingdom
		WMD,	weighted mean difference

BRIEF OVERVIEW:

Systematic Reviews for Patient-Centered Care

“Patient-centeredness has been varyingly used to describe a philosophy of medicine, a clinical method, a type of therapeutic relationship, a quality-of-care indicator, a professional and moral imperative, and a communication style...Mead & Bower (2000) concluded that although there is agreement on several dimensions of the concept of patient-centeredness, areas of conceptual contention are evident, and there is little consensus on operationalization of indicators or measurement approaches.” (Roter and Hall, 2004)

BACKGROUND

The VHA Office of Patient Care Services (PCS) asked the Technology Assessment Program (TAP) to review published literature on patient-centered care as support for its 2005-2006 strategic planning process. PCS’s strategic planning initiative group defines patient-centered care as:

“Patient Centered Care incorporates the patient’s goals of care in addressing all needs. These include medical, functional, psychosocial and spiritual. It requires that the highest level of evidence is used to guide the patient and family when appropriate in making well-informed decisions, and that they are fully invested in the management of their conditions. It seeks to balance patient preferences with sound clinical practices. This care is compassionate, convenient, timely, safe, cost-effective, efficient, interdisciplinary and collaborative.” (Robbins, 2005).

Within this broad definition, the initiative group was concerned for the efficacy of culture or ethnicity-specific programs. The original patient-centered care issues were subsequently amended to include patient education and clinician-patient communication. This overview reflects TAP’s activity for all phases and brings original searches up to August 2010.

Bauman (2003) provides a concise overview of concepts for patient-centeredness:

- *“Patient-centered care is about sharing the management of an illness between patient and doctor; it is not new but is increasingly evidence-based, especially for chronic problems such as diabetes, asthma and arthritis.*
- *Systematic reviews show that patient-centered care results in increased adherence to management protocols, reduced morbidity and improved quality of life for patients.*
- *Key features of the doctor-patient interaction are shared goal setting, written management plans and regular follow up.*
- *Supportive community-based services and programs, combined with healthcare system commitment, are also required to make this approach effective in improving population health.”*

Bauman then pares the list down to three core elements:

- Communication with patients;
- Partnerships;
- A focus beyond specific conditions, on health promotion and healthy lifestyles.

Nazario (2009) quotes a complementary list:

- Exploration of the disease and illness experience;
- Understanding the whole person;
- Finding common ground;
- Incorporating prevention and health promotion;
- Enhancing the doctor-patient relationship;
- Being realistic.

In other words, by combining core elements of all definitions: patient-centered care recognizes and tailors decisions to individuals within psycho-social contexts. Patient-centeredness is frequently contrasted with a biomedical model's focus on disease rather than person (Saha, 2008). Weiner (2010) classified as "contextual errors" a physicians' failure to recognize elements of the patient's environment or behavior that are essential to appropriate care.

METHODS

Against the background of the conceptual variation in patient-centeredness cited by Roter and Hall (2004), and the very broad coverage of the PCS strategic planning initiative group's definition, TAP approached all stages of its charge by first identifying available systematic reviews for patient-centered care, and its component concepts (shared decision making; patient education; communication with patients; self management; and culturally sensitive care). Such reviews provide a concise and immediately accessible "snapshot" of the extent to which research in interventions related to patient-centeredness has progressed to an evidence base on which to build a system strategy.

Systematic reviews

Cook (1997) and Mulrow (1997) define systematic reviews: "*Systematic reviews are scientific investigations in themselves, with pre-planned methods and an assembly of original studies as their "subjects". They synthesize the results of multiple primary investigations by using strategies that limit bias and random error...*".

The same authors further specify characteristics of systematic reviews and contrast them with traditional narrative reviews, which synthesize a selection of articles without reporting methods of selection or quality criteria. Systematic reviews:

- Ask a focused clinical question.
- Conduct a comprehensive search for relevant studies using an explicit search strategy.
- Uniformly apply criteria for inclusion and exclusion of studies.
- Rigorously and critically appraise included studies.
- Provide detailed analyses of the strengths and limitations of included studies.

Systematic reviews can be quantitative (i.e., meta-analytic, applying statistical methods to the summary of study results) or qualitative; in either case the inferences or conclusions of the review must follow logically from the evidence presented. The logic of this approach is illustrated by the place of systematic reviews in evidence grading schemes (Cook, 1995; Guyatt 1995), where systematic reviews receive the highest level designation. This overview includes any review that meets the definition of systematic, whether meta-analytic or qualitative.

Search strategy

On June 22, 2010 TAP searched PubMed, MEDLINE, and EMBASE using Dialog Information Services, as well as The Cochrane Library, and the International Network of Agencies for Health Technology Assessment (INAHTA) databases for articles addressing patient-centered care or component concepts as identified earlier. These concepts include: shared decision making; self-management of chronic disease; communication; patient education; and cultural competence. Details of the search strategies may be found in the Appendix.

TAP then updated each included systematic review to confirm the presence or absence of subsequently published review-eligible randomized controlled trials (RCTs) that would change review conclusions. Final searches were conducted on August 17, 2010. One author (Flynn) hand-searched the end references of each retrieved article for additional articles to include in the report, applied inclusion criteria, analyzed included articles, and prepared this report.

Inclusion criteria:

- Systematic reviews or subsequently published review-eligible RCTs;
- Published in English;
- Published or updated since 2000.

Exclusion criteria:

- Cochrane Collaboration protocols (reviews in the planning stage) or other preliminary reports (pilot, feasibility, or demonstration studies).
- Inaccurately indexed or otherwise outside charge (i.e., not meeting the initiative group's definition of patient-centered care or focused on questions other than effectiveness of patient-centered care interventions under that definition.)
- Narrative reviews, opinion pieces, letters, or any other publications lacking primary clinical data and/or explicit methods descriptions.
- Duplicate publications of the same material.
- Primary studies already included in systematic reviews.
- Reports judged unintelligible by at least two TAP staff.
- "Quasi-systematic" reviews, i.e., those which, on careful reading, fail to meet criteria above, or are inadequately reported to judge. Quasi-systematic reviews may attend to some details of truly systematic methods, but miss their essential spirits of focused questions, critical analysis, or transparent reporting. "Scoping reviews" intended to scan the content of the literature without reference to a focused clinical question, which in turn determines the study designs eligible for review, are classified here as quasi-systematic, even when they reports methods in detail.

RESULTS

TAP searches resulted in 886 citations spanning 1970 to the present, of which 847 were published since 2000. Of these, 129 articles were retrieved as potentially relevant to the review based on title and abstract information. Thirty-three systematic reviews and nine subsequently published, review-eligible RCTs met inclusion criteria.

Of the 33 systematic reviews, 22 were from the Cochrane Collaboration and 11 were published in print journals. Of the Cochrane Reviews, only one (Lewin, 2001) referred specifically to "patient-centered care" in any global sense. The strategic planning initiative group judged Lewin

(2001) inadequate to its needs, but we include it here as the only Cochrane review to use “patient-centered care” explicitly in its title.

The remaining reviews addressed components of patient-centered care (patient education or self-management) both specific to diagnoses or diseases, multi-faceted interventions, promotion of patient-centered care, end-of-life or palliative care, interventions specific to cultural or ethnic groups, or other concepts related to patient-centered care (physician smoking cessation advice, discharge interventions, or satisfaction with day surgery).

None of the results from the nine included RCTs would materially change the conclusions of the systematic reviews.

Table 1 below provides a high-level summary of available systematic reviews. Table 2 abstracts the systematic reviews’ details and Table 3 abstracts subsequently published review-eligible RCTs. Table 4 in the End References lists studies that were excluded from this report, based on the exclusion parameters listed above.

Table 1. Summary of available English-language systematic reviews for patient-centered care (2000-2010)

Citation	Clinical topic or condition	Content
Reviews from the Cochrane Collaboration		
Duncan (2010)	Mental health	Shared decision making
Glynn (2010)	Hypertension	Interventions to improve control
Légaré (2010)	Shared decision making	Interventions to improve adoption by healthcare professionals
Schedlbauer (2010)	Hyperlipidemia	Improving adherence to lipid lowering medication
Walters (2010)	COPD	Written action plans with ≤ 1 hr patient education
Duke (2009)	Type 2 diabetes	Individual patient education
Wetzels (2007)	Primary care	Interventions for improving older patients’ involvement
Edwards (2006)	Decisions about screening tests	Personalized risk communication
Rueda (2006)	HIV/AIDS	Patient support and education interventions to improve adherence to HAART
Fahey (2006)	Hypertension	Self-monitoring, education of patient or provider, nurse- or pharmacist-led care
Deakin (2005)	Self management of type 2 diabetes	Group-based, patient-centered education programs for adults
Murray (2005)	Chronic disease	Interactive health communication applications
Vermeire (2005)	Type 2 diabetes	Improving adherence to treatment
Lancaster (2004)	Smoking cessation	Physician advice
McDonald (2004)	Hip or knee replacement	Pre-operative education
Warsi (2004)	Chronic disease	Self management education
Riemsma (2003)	Rheumatoid arthritis	Patient education
Gibson (2003)	Asthma	Information only asthma education to adult patients
Gibson (2002)	Asthma	Self-management education
Lewin (2001)	Promotion of patient-centered approach	Training for healthcare providers
Renders (2000)	Primary care management of diabetes	Multi-faceted health professional or patient education
Quan (2000)	Hypertension control by age and race in women	Pharmacologic treatment tailored to patient-specific risks
Total: 22 completed Cochrane reviews	*15 clinical topics plus promotion of patient-centered care.	Disease-specific educational, screening, or self-monitoring interventions.

Citation	Clinical topic or condition	Content
Other systematic reviews		
Ditewig (2010)	Heart failure	Self-management programs
Hall (2010)	Safety	Interventions to promote patient involvement
Rodin (2009)	Cancer	Clinician-patient communication: impact on distress
Joosten (2008)	Adult treatment decisions	Effects of shared decision making on patient satisfaction, treatment adherence, health status
Mistiaen (2007)	Discharge home from general acute care	Discharge planning and support interventions
Parker (2007)	Terminal illness	Communication with patients and their families
Beach (2005)	Cultural competence	Interventions to improve cultural competence of health professionals
Shin (2005)	Mental health services	Client-clinician matching for race and ethnicity
Beach (2004) (AHRQ evidence review; 2006)	Improving minority healthcare quality	Interventions designed to improve quality of healthcare in racial or ethnic minorities, and targeted at healthcare providers or organizations:
Lawrence (2003)	Preventive medicine	Smoking cessation interventions for US minority/ethnic populations.
Mize (2002)	HIV	Prevention interventions in 5 ethnic groupings
Total: 11 additional reviews	11 clinical topics	Range of interventions, some culturally- ethnically-, or other subgroup-specific.

SUMMARY AND DISCUSSION

Patient-centered care can be a nebulous concept with a range of definitions and acknowledged difficulty in measuring it or its effects. Hence, investigators approaching the concept have tended to break it down into more manageable segments, such as the efficacy of self-management education programs for patients with chronic diseases. Other component concepts of patient-centered care operationalized as interventions inevitably have followed the same path; most reviews identified for this overview synthesized disease-specific patient education or self-management interventions. Systematic reviewers of these segments consistently identified methodologic shortcomings, inconsistent efficacy results, and heterogeneity among studies that precluded meta-analysis.

Patient-centered care overall

Systematic reviews were synthesized primarily for chronic conditions, but no review focused explicitly on all aspects of patient-centered care as outlined in the PCS strategic planning initiative group's definition, and only one review attempted any breadth of approach (Lewin, 2001).

Compelling reasons, such as the ethics of promoting patient autonomy, may argue for adoption of patient-centered care, but most systematic reviews found available research lacking in quantity or quality adequate to provide definitive answers on effectiveness of interventions classifiable as patient-centered. Reviewers generally agree that there seems to be some evidence that the patient-centeredness, as an end in itself, along with intermediate outcomes such as knowledge or adherence to treatment, can be enhanced, although any impact on health status remains uncertain. Lewin (2001) provides a still valid conclusion for patient-centered care:

“Even if the processes of patient-centered care can be regarded as desirable in their own right, reliable assurance that they result in more good than harm should be sought. As with many other complex interventions in health care, evidence of effectiveness, or lack thereof, is still needed.”

Communication with patients/patient education

Reviews of communication or patient education cover a broad range of interventions and they found areas of consensus across that range:

- The quality of primary research needs improvement;
- Articles meeting selection criteria for individual reviews used patient populations, interventions, and outcomes too heterogeneous to pool results;
- Any positive effects were small relevant to intermediate outcomes, or seen only in some diagnostic groups at some follow-up periods.

Finally, as the PCS strategic planning initiative group proceeds and further clarifies its literature synthesis needs, TAP will continue to monitor the literature for new approaches to defining and measuring patient-centered care. While isolated RCTs (notably those from UK's Expert Patients Program (Kennedy 2007), Table 2) provide models for trial design and reporting, the limited number of review-eligible new RCTs (Table 3) present neither dramatically improved methods, nor definitive evidence for the impact of patient-centered care on health status. Searches of ongoing trials (conducted 8/19/2010 at www.clinicaltrials.gov) did not identify breakthrough research likely to change the overall status of the evidence base in the foreseeable future.

Table 2. Systematic reviews of interventions for patient-centered care: abstracted details

Citation	Objective/Methods	Results/Conclusions
Cochrane reviews		
Duncan (2010)	<p>Effects (patient satisfaction, clinical, or health services) of shared decision making interventions directed to provider, patient or caregiver in people (all ages) with mental health conditions:</p> <ul style="list-style-type: none"> Multiple databases, -November 2008; RCTs; quasi-RCTs; controlled before-and-after; interrupted time series; interventions to increase SDM in people with mental health conditions (DSM or ICD-10) vs. no specific SDM intervention or different SDM intervention; or usual care; Excluded: studies focused on substance abuse subjects where co-morbid mental health condition had not been diagnosed by standard criteria; Interventions included combinations: description sufficient to determine that objective was to increase degree of SDM between patient and provider. 	<p>2 separate German studies (518 subjects):</p> <ul style="list-style-type: none"> Inpatient schizophrenia and depression in primary care; One study reported increased patient satisfaction, other did not; No evidence for effects on clinical outcomes or hospital readmission; No indication that SDM interventions increase patient involvement, consultation time, compliance with treatment plans, or harms of interventions. <p>Conclusions: <i>“No firm conclusion can be drawn at present about the effects of SDM interventions for people with mental health conditions. There is no evidence of harm, but there is an urgent need for further research in this area.”</i></p>
Glynn (2010)	<p>Effectiveness of interventions to improve control of blood pressure in patients with hypertension:</p> <ul style="list-style-type: none"> Multiple databases without date or language limits; RCTs in patients with hypertension evaluating: self-monitoring; patient or professional education; nurse- or pharmacist-led care; organizational interventions; or appointment reminder systems; Excluded: drug trials or non-pharmacological treatment studies. 	<p>72 RCTs</p> <ul style="list-style-type: none"> Methodologic quality varied; Organized system of regular review allied to vigorous antihypertensive drug therapy: SBP (WMD, 8.0mmHg; CI, -8.8-7.2; DBP (WMD, -4.3 mmHg; CI, 4.7- 3.9) for 3 strata of entry pressure; and all –cause mortality at 5 years (6.4 Vs 7.8%, difference 1.4%) in one large trial; Other interventions had variable effects; Self-monitoring: net reduction in SBP (WMD, -2.5 mmHg; CI, -4.7- -1.3); DBP 9WMD, -1.8 mmHg’ CI, -2.4- -1.2); Education directed at patients or health professionals: heterogeneous but appeared unlikely to produce large next reductions in blood pressure by themselves; Nurse- or pharmacist-led care: promising but require further investigation; Appointment reminder systems also require further investigation, although majority of trials reported increased proportion of patients presenting for FU. <p>Conclusions: <i>“Family practices and community-based clinics need to have an organized system of regular follow-up and review of their hypertensive patients. Antihypertensive drug therapy should be implemented by means of a vigorous stepped care approach when patients do not reach target blood pressure levels. Self-monitoring and appointment reminders may be useful adjuncts to the above strategies to improve blood pressure control but require further evaluation.”</i></p>

Citation	Objective/Methods	Results/Conclusions
Légaré (2010)	Effectiveness of interventions to improve adoption of SDM by healthcare professionals: <ul style="list-style-type: none"> Multiple databases, 1966-2009; RCTs or well-designed quasi-experimental (CCTs, before-and-after, interrupted time series); Any type of intervention intended to improve healthcare providers' adoption of SDM (the extent to which actually adopted or intended to be adopted) and reported objective measure of adoption. 	5 RCTs: <ul style="list-style-type: none"> All conducted in ambulatory care (3 primary, 2 specialized); 2 RCTs found significant effects for intervention: 1 for a patient-mediated intervention (Statin Choice aid) vs. standard Mayo clinic patient education pamphlet (effect size, 2.06; CI, 0.620-1.50); second compared multifaceted intervention (educational material, meeting, audit and feedback) vs. usual care (effect size, 2.11; CI, 1.30-2.90) and which was the only study to report barriers to adoption of SDM prior to intervention design. <p>Conclusions: <i>"The results of this review do not allow us to draw firm conclusions about the most effective types of intervention for increasing healthcare professionals' adoption of SDM. Healthcare professional training may be important, as may implementation of patient-mediated interventions such as decision aids. Given the paucity of evidence, however, those motivated by the ethical impetus to increase SDM in clinical practice will need to weigh the costs and potential benefits of interventions. Subsequent research should involve well-designed studies with adequate power and procedures to minimize bias so that they may improve estimates of the effects of interventions on healthcare professionals' adoption of SDM. From a measurement perspective, consensus on how to assess professionals' adoption of SDM is desirable to facilitate cross-study comparisons."</i></p>
Schedlbauer (2010)	Intervention to improve adherence to lipid lowering medications: <ul style="list-style-type: none"> Multiple databases without language restriction, - March 2008; RCTs: parallel group or cross-over; individual or cluster randomization; Any intervention intended to increase adherence vs. usual care or no intervention: simplification of drug regimen; patient education and information; intensified care (FU or reminders); complex behavioral approaches (group motivational sessions or rewards); computer-based decision support systems; administrative improvements (audit, documentation, computers); Cochrane quality criteria for risks of selection, performance, or attrition biases. 	11 studies: <ul style="list-style-type: none"> Interventions cause change in adherence, -3% to 25%; Most promising intervention category: reinforcement and reminding (4/6 trials showed improvements); Other interventions associated with improvements: simplification of regimen (11% increase); patient education/information (13%); Methodologic and analytic quality of studies low; results should be interpreted with caution. <p>Conclusions: <i>"At this stage, reminding patients seems the most promising intervention to increase adherence to lipid lowering drugs. The lack of gold standard for measuring adherence is one major barrier to adherence research. More reliable data might be achieved by newer methods of measurement, more consistency in assessment and longer follow up. More recent studies have started using more reliable methods for data collection but follow up periods remain too short. Increase patient-centeredness with emphasis on the patient's perspective and shared decision making might lead to more conclusive answers when searching for tools to encourage patients to take lipid lowering medication."</i></p>

Citation	Objective/Methods	Results/Conclusions
Walters (2010)	Action plans in management of COPD: <ul style="list-style-type: none"> Multiple databases, - July 2009: RCTs of individual action plan with minimal or no patient self-management education vs. usual care; Contact with primary study authors as needed. 	5 studies (574 subjects): <ul style="list-style-type: none"> Moderate to severe COPD; FU, 6-12 months; 4/5 studies subject to bias due to lack of blinding; No evidence that action plans reduced health service utilization: hospital admission (MD, 0.23; CI, -0.03-0.49; EDS visits (MD, 0.37; CI, -0.50-1.24); or GP visits (MD, -.53; CI, -0.45-1.50); Action plans associated with increased initiation of treatment for acute exacerbations; Oral corticosteroid use increased over 12 months: MD, 0.74; CI, 0.14-1.35; Significantly increased odds of being treated with antibiotics over 12 months: OR, 1.65; CI 1.01-2.69. <p>Conclusions: <i>"There is evidence that action plans with limited COPD education aid recognition of, and response to, an exacerbation with initiation of antibiotics and corticosteroids. Only one study measured patients' self health appropriate behavior (decision making and taking action). There is no evidence of reduced healthcare resources utilization or improved HRQoL. The practice of giving patients an action plan and limited self-management education for COPD exacerbations, without a multi-faceted self management program or ongoing case management, cannot be recommended as the standard of care in COPD."</i></p>
Duke (2009)	Effectiveness of individual patient education on metabolic control, diabetes knowledge, or psychosocial outcomes: <ul style="list-style-type: none"> Multiple databases, - April 2007; RCTs or CCTs in patients > 18 years diagnosed with type 2 diabetes and receiving individual education (face-to-face, not telephone- or computer-based) as major component of intervention with ≥ 6 months FU; Controls: group education; no intervention; or usual care; Excluded: interventions specific to MODY or gestational diabetes; limited to particular aspects (weight, physical activity, or foot care). 	9 studies (1359 subjects): <ul style="list-style-type: none"> Overall quality not high; No long-term studies; 6 compared individual education to usual care: individual education did not improve glycemic control (HbA1c WMD, -0.1%; CI, -0.4-0.1; P = 0.33); but significant in subgroup analyses for higher (8%) mean baseline HbA1c (WMD, 0.3%; CI, -0.5-0.1; P=0.0007); 2/3 studies (361 subjects) individual education vs. group education: NS difference. <p>Conclusions: <i>"This review suggests a benefit for individual education on glycemic control compared to usual care in a subgroup of patients with baseline HbA1c greater than 8%. However, there did not appear to be a significant difference between individual education and usual care. In the small number of studies comparing group and individual education, there was an equal impact on HbA1c at 12 to 18 months. Additional studies are needed to delineate these findings further."</i></p>

Citation	Objective/Methods	Results/Conclusions
Wetzels (2007)	<p>Interventions to increase involvement (i.e., active participation in treatment decisions) of older patients in primary care:</p> <ul style="list-style-type: none"> • Multiple databases, 1966-2004; • RCTs or quasi-; • Meta-analysis considered but not possible. 	<p>3 studies (433 patients):</p> <ul style="list-style-type: none"> • Overall quality of studies high with moderate to high risk of bias; • Pre-visit booklet and pre-visit session (alone or together) led to more questioning behavior and greater self-reported active behavior (3 studies) than in controls; • One study using booklet and session found no difference in consultation length or time engaged in talk, although intervention associated with increased satisfaction with interpersonal aspects of care; • No long-term follow-up for sustained effects or outcomes related to use of health services, health status, well-being, or health behaviors. <p>Conclusions: <i>“Overall, this review shows some positive effects for specific methods to improve the involvement of older people in primary care episodes. Because the evidence is limited, however, we cannot recommend the use of reviewed interventions in daily practice. There should be a balance between respecting patients’ autonomy and their active participation in health care. Face-to-face coaching sessions, whether or not complemented with written materials, may be the way forward. As this is impractical for the whole population, it could be worthwhile to identify a subgroup of older patients who might benefit the most from enhanced involvement i.e., those who want to be involved, but lack the necessary skills. This group could be individually coached or, more practically, in group sessions.”</i></p>
Edwards (2006)	<p>Effects of different types of personalized risk communication on decisions to take screening tests:</p> <ul style="list-style-type: none"> • Multiple databases, 1985-2001; • RCTs with ITT analysis addressing screening test decisions and using personalized risk communication (individual’s own or family risk factors). 	<p>22 studies:</p> <ul style="list-style-type: none"> • > 50% assessed mammography; • Weak evidence for a small effect of personalized risk communication (written, spoken, visual) increasing test uptake: OR, 1.31; CI, 0.98-1.77; • 3 studies showed trend to more accurate risk perception: OR, 1.65 (CI, 0.96-2.81); • Mammography studies showed similar effects to entire study set: OR, 1.75; CI, 1.050-2.88. <p>Conclusions: <i>“Personalized risk communication (as currently implemented in included studies) may have a small effect on increasing uptake of screening test, and there is only limited evidence that interventions have promoted informed decision making by consumers.”</i></p>

Citation	Objective/Methods	Results/Conclusions
Rueda (2006)	<p>Effectiveness of patient education and support for improving HAART adherence:</p> <ul style="list-style-type: none"> • Multiple databases, 1996-2005; • RCTs with minimum 6 weeks FU; • HAART = at least 3 antiretroviral drugs; at least one non-nucleoside reverse transcriptase inhibitor; or 3 nucleoside reverse transcriptase inhibitors; • Adults or children in which at least 80% of study population has been prescribed HAART; • Interventions: support- or education-based. 	<p>19 studies (2159 subjects):</p> <ul style="list-style-type: none"> • Sample sizes 22-367; general HIV population to focus on subgroups (women, Latino, alcohol dependent); • Heterogeneity precluded meta-analysis; • Interventions: cognitive behavioral therapy; motivational interviewing; medication management strategies; some indirectly targeting adherence; • 10 studies showed beneficial effects. <p>Conclusions: <i>"We found evidence to support the effectiveness of patient support and education interventions intended to improve adherence to HAART. Interventions targeting practical medication management skills, those administered to individuals vs. groups, or delivered over 12 weeks or more were associated with improved adherence outcomes. There is a need for standardization and increased methodological rigor in the conduct of adherence trials."</i></p>
Fahey (2006)	<p>RCTs of patients with hypertension that evaluated interventions:</p> <ul style="list-style-type: none"> • Self-monitoring; • Educational interventions directed to the patient; • Educational interventions directed to the health professional; • Health professional (nurse or pharmacist) led care; • Organizational interventions that aimed to improve the delivery of care; • Appointment reminder systems; • Outcomes assessed: mean systolic and diastolic blood pressure; control of blood pressure; proportion of patients followed up at clinic. 	<p>59 RCTs:</p> <ul style="list-style-type: none"> • Methodological quality of included studies was variable; • An organized system of regular review linked to vigorous antihypertensive drug therapy was shown to reduce blood pressure (weighted mean difference -8.2-4.2mmHg (-11.7/-6.5 mmHg, -10.6/-7.6mmHg for 3 strata of entry blood pressure) and all-cause mortality at 5 years follow-up (6.38% versus 7.78%, difference 1.4%0 in a single large RCT (Hypertension Detection and Follow-Up Study)); • Other interventions had variable effects: self-monitoring was associated with moderate net reduction in diastolic blood pressure (weighted mean difference, -2.03mmHg; CI, -2.69- -1.38mmHg). Appointment reminders increased the proportion of individuals who attended for follow-up; • RCTs of educational interventions directed at patients or health professionals were heterogeneous, but appeared to be unlikely to be associated with large net reductions in blood pressure; • Health professional (nurse or pharmacist) led care may be a promising way of delivering care, with the majority of RCTs being associated with improved blood pressure control, but requires further study. <p>Conclusions: <i>"We conclude that an organized system of registration, recall, and regular review linked to a vigorous stepped approach to antihypertensive drug treatment appears the most likely way to improve control of elevated blood pressure. Health professional (nurse or pharmacist) led care requires further evaluation. Education alone, either of health professionals or patients, does not appear to be associated with large net reductions in blood pressure."</i></p>

Citation	Objective/Methods	Results/Conclusions
Deakin (2005)	<p>Is group-based patient-centered training in self-management effective for improving clinical, lifestyle, and psychosocial outcomes in people with type 2 diabetes?</p> <ul style="list-style-type: none"> Multiple databases plus hand-searching, -Feb 2003; RCTs or CCTs with at least 6 months follow-up; at least 1 session with minimum 6 participants; Quality assessment by Jaddad criteria. 	<p>11 studies (1532 subjects):</p> <ul style="list-style-type: none"> Meta-analysis in favor of group-based diabetes education programs; Reduced glycated hemoglobin at 4-6 months (1.4%; CI, 0.8-1.6; $P < 0.00001$); at 12-14 months (0.8%; CI, 0.7-1.0; $P < .0001$); at 2 yrs (1.0%; CI, 0.5-1.4; $P < 0.00001$); Reduced fasting glucose at 12 months (1.2 mmol; CI, 0.7-1.6; $P < 0.00001$); Reduced body weight at 12-14 months (1.6Kg; CI, 0.3-3.0; $P = 0.02$); Improved diabetes knowledge at 12-14 months (SMD, 1.0; CI, 0.7-1.2; $P < 0.00001$); Reduced systolic blood pressure at 4-6 months (5 mmHg; CI, 1.-10; $P = 0.01$); Reduced need for medication (OR, 11.8; CI, 5.2-026.9; $P < 0.00001$); NNT = 5. <p>Conclusions: "Group-based training for self-management strategies in people with type 2 diabetes is effective for improving fasting blood glucose levels, glycated hemoglobin and diabetes knowledge and for reducing systolic blood pressure levels, body weight and the requirement for diabetes medication."</p>
Murray (2005)	<p>Effects of IHCA's for people with chronic disease:</p> <ul style="list-style-type: none"> Multiple databases, 1990-Dec 2003; RCTs in people of all ages with chronic disease (diabetes, ischemic heart disease, asthma, COPD, epilepsy, Parkinson's disease, Alzheimer's disease, arthritis, renal failure); Interventions: any package requiring user to interact directly with any kind of computer and contained health information, plus at least 1 of peer support, decision support, or behavior change support; not defined by investigators as decision aid or computerized cognitive behavioral therapy; Comparisons: normal care, non-interactive patient education, interactive education led by peers or professionals; Excluded: decision aids, computerized cognitive behavioral therapy, decision support aimed at professionals, simple information packages. 	<p>24 RCTs (3739 subjects):</p> <ul style="list-style-type: none"> IHCAs had significant positive effect on knowledge (SMD, 0.46; CI, 0.22-0.69); social support (0.35; 0.18-0.52); and clinical outcomes (0.18; 0.01-0.35); Positive effects on self-efficacy (SMD, 0.20; CI, 0.01-0.40) appear unlikely; Behavioral effects positive but NS (OR, 1.66; CI, 0.71-3.87). <p>Conclusions: "IHCAs appear to have largely positive effects on users, in that users tend to become more knowledgeable, feel better socially supported, and may have improved behavioral and clinical outcomes compared to non-users. There is a need for more high quality studies with large samples to confirm these preliminary findings, to determine the best type and way to deliver IHCAs, and to establish how IHCAs have their effects for different groups of people with chronic illness."</p>

Citation	Objective/Methods	Results/Conclusions
Vermeire (2005)	<p>Effectiveness of interventions to improve adherence to treatment recommendations in people with type 2 diabetes:</p> <ul style="list-style-type: none"> • Multiple databases, 1966-2002; • RCTs, CCTs, before-and-after, epidemiologic studies reporting diabetes-related morbidity or mortality, hospitalization or specialist referral rates; • Interventions (aimed at patients or providers): education (information or feedback); incentives; use of electronic devices or decision support systems; facilitators for self-recording or – management; organization of care, health service utilization; adverse effects; • Minimum 3 months duration of intervention and 3 months FU; • Excluded: mixed types 1 and 2 diabetes without separate reporting of outcome; intervention to improve diet or exercise; patients hospitalized at beginning of study but not separately reported. 	<p>21 studies:</p> <ul style="list-style-type: none"> • 3 good quality; 13 medium; 5 poor; • Variety of settings: primary care; outpatient, community, hospital; • No reports of morbidity, mortality, or QoL; otherwise heterogeneous outcomes and measurements used; • The following showed small effects on a variety of outcomes, including HbA1c: nurse or pharmacy-led interventions, home aids, diabetes education, adaptation of dosing or frequency for medications. <p>Conclusions: <i>“Current efforts to improve or facilitate adherence of people with type 2 diabetes to treatment recommendations do not show significant effects nor harms. The question whether any intervention enhances adherence in type 2 diabetes effectively remain unanswered.”</i></p>
Lancaster (2004)	<ol style="list-style-type: none"> 1. Effectiveness of advice from physicians (minimal vs. more intensive) to quit smoking. 2. Effectiveness of aids to advice. 3. Effect of advice on disease-specific and all-cause mortality. <ul style="list-style-type: none"> • Multiple databases - March 2004; • RCTs with at least 2 treatment groups; smoking cessation advice from a medical practitioner with abstinence assessed ≥ 6 months after first advice. 	<p>39 trials (>31,000 smokers):</p> <ul style="list-style-type: none"> • Published 1972-2004; • Minimal advice vs. no advice control (17) studies; more intensive vs. control (8); minimal vs. intensive (14); some studies contribute to more than 1 review comparison; • Most common setting: primary care; • FU and assessment of abstinence variable; • Only 21% of studies described randomization process as resistant to bias; 44% provided insufficient information to assess risk of bias; • Pooled results (17 trials of advice vs. no advice or usual care): small but significant increase in odds of quitting (OR, 1.74; CI, 1.48-2.05) = absolute difference of 2.5%; • Insufficient evidence from indirect comparisons to establish differences according to intensity of intervention or use of various aids with intensive advice; • Small benefit to FU visits; • No differences in death rates at 20 yrs. <p>Conclusions: <i>“Simple advice has a small effect on cessation rates. Additional manoeuvres appear to have only a small effect, though more intensive interventions are marginally more effective than minimal interventions.”</i></p>

Citation	Objective/Methods	Results/Conclusions
McDonald (2004)	<p>Does preoperative education improve postoperative outcomes (anxiety, pain, mobility, length of stay, incidence of deep vein thrombosis) in patients undergoing hip or knee replacement surgery?</p> <ul style="list-style-type: none"> Multiple databases, 1966-2002; RCTs; Preoperative education: verbal written; or audiovisual; Delivered by health professional. 	<p>9 studies (782 subjects):</p> <ul style="list-style-type: none"> 4 studies (365 subjects) assessed LOS but detected no significant difference, although one study (N= 133 with complex needs) found that individually tailored programs of education and support did decrease LOS; the 4 LOS studies did report reduction in days to standing, or days to climb stairs; 3 trials found reductions in preoperative anxiety; No significant effects on postoperative anxiety the day after surgery or at discharge; 5 studies reported postoperative pain; no significant effects of education. <p>Conclusions: <i>“There is little evidence to support the use of pre-operative education over standard care to improve postoperative outcomes in patients undergoing hip or knee replacement surgery, especially with respect to pain, functioning, and length of hospital stay. There is evidence that preoperative education has a modest beneficial effect on preoperative anxiety. There may also be beneficial effects when preoperative education is tailored according to anxiety, or targeted at those most in need of support (e.g. those who are particularly disabled, or have limited social support structures).”</i></p>
Warsi (2004)	<p>Are self-management education programs for chronic diseases effective?</p> <ul style="list-style-type: none"> Medline and HealthStar, 1964-1998; English–language reports of self-management education intervention for chronic disease compared to concurrent control; Clinical outcomes reported; Excluded: studies exclusively reporting knowledge, compliance, self-reported outcomes, health service use, or generic outcomes (QoL or coping skills); those focused on depression, post-acute care, obesity; smoking cessation or involving physical or psychosocial therapies unless integrated with education; Assessment for heterogeneity and publication bias. 	<p>71 trials in 5 disease categories:</p> <ul style="list-style-type: none"> Arthritis (24 studies); asthma (16); diabetes (16); hypertension (10); miscellaneous chronic diseases (5); Trial methods varied and substandard; Diabetic patients demonstrated reduction in glycosylated hemoglobin (0.45; CI, 0.17-0.74); and improvement in systolic blood pressure (0.20; CI, 0.01-0.39); Asthmatic patients experienced fewer attacks (0.59; CI, 0.35-0.83); Trend toward small benefit for arthritis but NS; Evidence for publication bias. <p>Conclusions: <i>“Self-management education programs result in small to moderate effects for selected chronic diseases. In light of publication bias, further trials that adhere to a standard methodology would help clarify whether self-management education is worthwhile.”</i></p>

Citation	Objective/Methods	Results/Conclusions
Riemsma (2003)	<p>Effectiveness of patient education interventions on health status in people with rheumatoid arthritis:</p> <ul style="list-style-type: none"> • RCTs: patient education with instructional component and non-intervention control; • Pre- and post-test results available separately for rheumatoid arthritis, either in publication or from authors; • Study results presented in full, end-of-study report; • Excluded: studies in which intervention was only behavioral (e.g. biofeedback) without educational component, or was only social support. 	<p>31 studies included:</p> <ul style="list-style-type: none"> • Significant effects for patient education at first FU for scores on disability, joint counts, patient global assessment, psychological status, and depression; • Trend favoring education on scores for pain; • Physician global assessment not reported in any included studies; • Anxiety and disease activity showed no significant effects; • At final FU: no significant effects of patient education, although there was a trend favoring education for disability scores. <p>Conclusions: <i>“Patient education as provided in the studies reviewed here had small short-term effects on disability, joint counts, patient global assessment, psychological status and depression. There is no evidence of long-term benefits in adults with rheumatoid arthritis.”</i></p>
Gibson (2003)	<p>Limited (information only) asthma education in adults with asthma:</p> <ul style="list-style-type: none"> • Cochrane airways group register, plus hand-searching; • RTs and CCTs studying effects of limited education (delivered by nurse, pharmacist, health educator or clinician to individuals or groups, but not to their doctors) on adults with asthma; • Outcomes: admission or readmission rates; unscheduled doctor visits; lung function use of “rescue” medications; QoL or symptoms scores; days lost from education or work, • Quality assessment by Cochrane criteria. 	<p>12 studies:</p> <ul style="list-style-type: none"> • Variable quality; • Limited education did not reduce hospitalizations (WMD, -0.03 per person per yr; CI, -0.90-0.03) • No significant effects on doctor visits, lung function or medication use; • Variable effects on symptoms. <p>Conclusions: <i>“Use of limited asthma, education as it has been practiced does not appear to improve health outcomes in adults with asthma although perceived symptoms may improve. Provision of information in the emergency department may be effective, but this needs to be confirmed.”</i></p>

Citation	Objective/Methods	Results/Conclusions
Gibson (2002)	<p>Asthma self-management programs combined with regular practitioner review:</p> <ul style="list-style-type: none"> Multiple databases, 1966-2000; RCTs, quasi-RCTs, CCTs in adults (>16) with asthma studying effects of asthma education (verbal, written, visual, audio interactive or non-interactive, structure or un-structured) and self-management vs. usual care. 	<p>36 trials 6090 subjects:</p> <ul style="list-style-type: none"> Optimal self-management (15 trials); self-monitoring and regular review (7 trials); self-monitoring only (10); regular review only (2); written action plan but not optimal self-management (2); all included some degree of patient education; Settings: hospital (6); ED (3); hospital and ED (1); outpatient clinic (12); GP (5); community (6); HMO (1); Self-management education reduced hospitalization (RR, 0.64; CI, 0.50-0.82); ED visits (RR, 0.82; CI, 0.73-0.94); unscheduled doctor visits (RR, 0.68; CI, 0.56-0.81); days off work or school (RR, 0.79; CI, 0.67-0.93); nocturnal asthma (R, 0.67; CI, 0.56-0.79); and QoL (SMD, 0.29; CI, 0.11-0.47); Measures of lung function showed little change. <p>Conclusions: <i>“Education in asthma self-management which includes self-monitoring by either peak expiratory flow or symptoms, coupled with regular medical review and a written action plan improves health outcomes in adults with asthma. Training programs that enable people to adjust their medication using a written action plan appear to be more effective than other forms of asthma, self-management.”</i></p>
Lewin (2001)	<p>To assess the effects of interventions for healthcare providers that aim to promote patient-centered approaches in clinical consultations:</p> <ul style="list-style-type: none"> Multiple databases – 1999; RCTs; controlled before and after studies; interrupted time series studies; Interventions for providers that promote patient-centered care (“a philosophy of care that encourages shared control of the consultation, decisions about interventions or management of the health problems with the patient, and/or a focus in the consultation on the patient as a whole person with individual preferences situated within social contexts (in contrast to a focus in the consultation on the body part or disease); Excluded: studies providing cultural, disability, or sexual sensitivity training to providers; Participants: healthcare providers, including those in training; All outcomes other than providers’ knowledge, attitudes, or intentions considered. 	<p>17 studies met inclusion criteria.</p> <ul style="list-style-type: none"> The studies display considerable heterogeneity of the interventions themselves, the health problems or concerns on which the interventions focused, the comparisons made, and the outcomes assessed; All involved training for healthcare providers as an element of the intervention; 10, providers only; the remainder used multi-faceted interventions with training for providers as one component; The providers were mainly primary care physicians practicing in community or hospital outpatient settings; two studies also included nurses; There is fairly strong evidence to suggest that some interventions to promote patient-centered care in clinical consultation may lead to significant increases in the patient-centeredness of consultation processes; There is also some evidence that training healthcare providers in patient-centered approaches may impact positively on patient-satisfaction with care; 6/11 studies assessing patient satisfaction demonstrated significant differences in favor of the intervention group on one or more measures; Few studies examined healthcare behavior or health status outcomes. <p>Conclusions: <i>“Interventions to promote patient-centered care within clinical consultations may significantly increase the patient centeredness of care. However, there is limited and mixed evidence on the effects of such interventions on patient health behaviors or health status, or on whether these interventions might be applicable to providers other than physicians. Further research is needed in these areas.”</i></p>

Citation	Objective/Methods	Results/Conclusions
Renders (2000)	<p>Effects of different interventions, targeted at health professionals or the structure in which they deliver care, on the management of patients with diabetes mellitus in primary care, outpatient and community settings. Some studies added patient education to other interventions:</p> <ol style="list-style-type: none"> 11 Randomized trials; 12 Controlled clinical trials; 13 Controlled before and after studies; 14 Interrupted time series; 15 Analyses of professional, financial, and organizational strategies aimed at improving care for people with Type 1 or Type 2 diabetes; 16 Participants: health care professionals, including physicians, nurses, and pharmacists; 17 In all studies the intervention strategy was multi faceted; 18 Outcomes: objectively measured health professional performance or patient outcomes, and self-report measures with known reliability and validity. 	<p>41 studies involving more than 200 practices and 48,000 patients:</p> <ul style="list-style-type: none"> • The methodological quality of the studies was often poor. • The studies were heterogeneous in terms of interventions, participants, settings, and outcomes; • A combination of professional interventions improved process outcomes; the effect on patient outcomes remained less clear as these were rarely assessed; • Arrangements for follow-up (organizational intervention) also showed a favorable effect on process outcomes; • Multiple interventions to which patient education was added, or in which the role of the nurse was enhanced, also reported favorable effects on patients' health outcomes. <p>Conclusions: <i>"Multifaceted professional interventions can enhance the performance of health professionals in managing patients with diabetes. Organizational interventions that improve regular prompted recall and review of patients (central computerized tracking systems or nurses who regularly contact the patient) can also improve diabetes management. The addition of patient-oriented interventions can lead to improved patient health outcomes. Nurses can play an important role in patient-oriented interventions, through patient education or facilitating adherence to treatment."</i></p>
Quan (2000)	<p>Do the relative and absolute benefits of hypertension treatment in women vary with age or race?</p> <ul style="list-style-type: none"> • RCTs of pharmacological treatment of primary hypertension, reporting cardiovascular morbidity and mortality outcomes; • ≥100 women enrolled. 	<p>Pooled population included 23,000 women:</p> <ul style="list-style-type: none"> • In women ages 55 and older (90% white): hypertension treatment results in a 38% risk reduction in fatal and nonfatal cerebrovascular events (CI, 27-47%); a 25% risk reduction in fatal and nonfatal cardiovascular vents (CI, 17-337%); and a 17% risk reduction in cardiovascular mortality (CI, 3-29%; NNT, 282); • In women ages 30-54 years (79% white): hypertension treatment results in a 41% risk reduction (CI, 8-63%) in fatal and nonfatal cerebrovascular events; and a 27% risk reduction (CI, 4-44%; NNT, 259) in fatal and nonfatal cardiovascular events; • Hypertension treatment in African American women (mean age 52 years): reduced risk of fatal and nonfatal cerebrovascular events by 53% (CI, 29-69%;NNT, 39); fatal and nonfatal coronary events by 33%(CI, 2-25%;NNT, 48); and all cause mortality by 34%(CI, 14-49%; 5 year NNT, 39). <p>Conclusions: <i>"Hypertension treatment lowers the relative and absolute risk of cardiovascular morbidity and mortality in women ages 55 years and older and in African American women of all ages. A greater effort should be made to increase awareness and treatment in these groups of women. Although relative risk reductions for cerebrovascular and cardiovascular events are similar for younger and older women, the NNT of younger women is at least 4 times higher. Decisions for treatment of hypertension in younger white women should be influenced by the individual patient's absolute risk of cardiovascular disease."</i></p>

Citation	Objective/Methods	Results/Conclusions
Other Systematic Reviews		
Ditewig (2010)	Effectiveness of self-management interventions vs. usual care in chronic heart failure: mortality, hospitalizations, QoL: <ul style="list-style-type: none"> Multiple databases, 1966-April 2009; RCTs evaluating self-management interventions in any format including formal disease management program vs. standard care; >18 yrs; no exclusions for severity of disease, literacy, or ethnic group. 	<p>19 studies:</p> <ul style="list-style-type: none"> All reported method of randomization and interventions focused on patient education; 7 did not report blinding: possible selection bias; 7 had baseline differences between groups but did not report adjustment; Mortality effects: 9 studies (1988 subjects): one study reported significant difference; others, NS; All-cause hospital readmission: 8 studies (2248 subjects) with mean FU 3098 days: two studies found significant reductions; other 6, NS; but short FU and baseline severity differences; QoL: 14 studies (2311 subjects) mean FU, 362 days: baseline differences and different QoL instruments. <p>Conclusions: <i>"Currently available studies have methodological shortcomings which might impair validation of self-management intervention effectiveness for mortality, hospitalization and QoL. There is a need for well-designed studies including patient populations with severe co-morbidity and psychological disorders, besides recruiting from combined healthcare facilities (primary as well as secondary)."</i></p>
Hall (2010)	Identify, appraise and summarize evaluations of strategies or interventions which have been used to promote patients' (and/or family members or advocates) involvement in their care to enhance their own or others' safety in a healthcare context: <ul style="list-style-type: none"> Multiple databases and grey literature, - August 2008; Systematic reviews; RCTs, quasi-RCTs; Any health service users or potential users in any setting; Meta-analysis not appropriate; Interventions categorized by method of encouragement. 	<p>15 studies:</p> <ul style="list-style-type: none"> 1 systematic review; 14 experimental or quasi-; Majority of studies classified as monitoring and ensuring safe delivery of treatment by self for medication safety: authors reported improved safety incident outcomes for intervention vs. control for patient involvement in self-management of anticoagulation; "easy read" leaflet; nurse- or pharmacist-led education; patient package insert with lay terminology. <p>Conclusions: <i>"There is limited evidence for the effectiveness of interventions designed to promote patient involvement on patient safety incidents and in general is poor quality. Existing evidence is confined to promotion of safe self-management of medication, most notably relating to the self-management of oral anticoagulation."</i></p>

Citation	Objective/Methods	Results/Conclusions
Rodin (2009)	<p>To identify methods of cancer communication that impact distress at critical points in cancer care:</p> <ul style="list-style-type: none"> • Multiple databases, 1966-2007; • English-language practice guidelines, systematic reviews, or RCTs with focus on interaction between adult cancer patients and healthcare providers during discussions of diagnosis, recurrence, metastases or end-of- life; • Reporting patient outcomes in relation to the interaction; • RCTs comparing different aspects of communication with each other or with a standard method; • Non-comparative studies considered in case of limited evidence from comparative; • Excluded: pre-2000 guidelines; pre-1995 systematic reviews; evaluation of training programs, clinical trial participation, disease prevention or screening. 	<p>21 publications:</p> <ul style="list-style-type: none"> • Guidelines (4); systematic reviews (8); RCTs (9); • 2/4 guidelines of high quality; • All systematic reviews reported methods clearly; • RCTs of modest or low quality; • Evidence for a reduction in anxiety when discussions of life expectancy and prognosis included in consultations; • Techniques to increase patient participation were associated with greater satisfaction, but did not necessarily decrease distress; • Few studies took cultural and religious diversity into account. <p>Conclusions: <i>“There is little evidence supporting the superiority of one specific method for communicating information compared to another. Evidence regarding the benefit of decision aids or other strategies to facilitate better communication is inconsistent. Since patients vary in their communication preferences and desire for active participation in decision making, there is a need to individualize communication style.”</i></p>
Joosten (2008)	<p>Effects of SDM on patient satisfaction, treatment adherence, health status:</p> <ul style="list-style-type: none"> • Multiple databases, 1966-July 2006; • English-language RCTs (SDM vs. control) in which adult treatment decisions were to be made; and reporting treatment adherence, patient satisfaction, well-being, or QoL; • Quality assessment by Cochrane criteria. 	<p>11 studies (2364 patients):</p> <ul style="list-style-type: none"> • Generally high methodologic quality • Patient satisfaction most frequently reported outcome, but only one RCT found positive effect; • 2/5 studies recording physical or psychological well-being reported positive effects; • Heterogeneity precluded pooling results. <p>Conclusions: <i>“The good-quality research identified in this review indicates that SDM can be an effective and useful way of reaching a treatment agreement when patients have to make long-term decisions. Furthermore, research shows that SDM interventions are effective when they concern treatment programs or contain more than one session.”</i></p>

Citation	Objective/Methods	Results/Conclusions
Mistiaen (2007)	<p>“Review of reviews”: discharge planning and support interventions:</p> <ul style="list-style-type: none"> • Multiple databases and websites, 1994-2004; • English, French, German, or Dutch systematic reviews focused on discharge interventions; • Systematic reviews defined as those reporting a search strategy including at least PubMed; and included study methods evaluated for quality); • Discharge interventions applied to adults in general acute care hospitals for primarily physical problems within 3 months of discharge to home; • Exclusions: primary research reports; interventions or outcomes for caregivers or health professionals only; ED or one-day procedure hospitalizations; intervention by primary care provider after discharge. 	<p>15 systematic reviews:</p> <ul style="list-style-type: none"> • All reviews cited heterogeneity among primary studies that precluded meta-analysis; • Some individual studies found statistically significant effects, but most reviewers were unable to draw firm conclusions; • Limited evidence that some interventions may improve patients’ knowledge, help in keeping them at home, or reduce readmissions to hospital; • Interventions combining planning and support appear to have largest effects; • Little evidence for impact on LOS, discharge destination, or dependency at discharge; • No evidence for positive impact on physical status or healthcare use after discharge, or on costs. <p>Conclusions: <i>“Based in 15 high-quality reviews, there is some evidence that some interventions may have a positive impact, particularly those with educational components and those that combine pre- and post-discharge interventions. However, on the whole there is only limited summarized evidence that discharge planning and support have positive impacts on patient status, functioning, health service use, or costs.”</i></p>
Parker (2007)	<p>To support recommendations for discussions of dying, life expectancy, and future symptoms. with patients for whom life expectancy is limited and their families:</p> <ul style="list-style-type: none"> • Multiple databases, publication since 1985; language(s) not specified; • RCTs ; CCTs; cohort; case-control, before-and-after enrolling ≥ 50% adult patients in specialist palliative care or hospice settings and with life-limiting(< 2 yrs) diagnosis; • Communication interventions described for: by whom and how information is communicated; focus on hope vs. accuracy; • Excluded: patients receiving curative intent treatment or in ICU; < 18 yrs; narrative review or discussion paper. 	<p>123 reports on 99 studies:</p> <ul style="list-style-type: none"> • 79/99 were quantitative, 41 qualitative, 45 mixed; • Study populations: 4-9105 subjects (median 113; mode 30); • 93% low level evidence (descriptive only); 43% reported patient or caregiver preferences for content, style, timing of prognostic information; • Systematic review suggested differences in attitudes to truth-telling according to Anglo-Saxon vs.. other cultural backgrounds. <p>Conclusions: <i>“The majority of the research was descriptive. Although there were individual differences, patients/caregivers in general had high levels of information need at all stages of the disease process regarding the illness itself, likely future symptoms and their management and life expectancy and information about clinical treatment options. Patient and caregiver information needs showed a tendency to diverge as the illness progressed, with caregivers needing more and patients wanting less information. Patients and caregivers preferred a trusted health professional who showed empathy and honesty, encouraged questions, and clarified each individual’s information needs and level of understanding. In general, most patients/caregivers wanted at least some level of discussion of these topics at the time of diagnosis of an advanced progressive, life-limiting illness or shortly after. However, they wanted to negotiate the content and extent of this information.”</i></p>

Citation	Objective/Methods	Results/Conclusions
Beach (2006a) (AHRQ report)	<p>Interventions designed to improve the quality of healthcare in racial and ethnic minorities, with a focus on evaluations of interventions targeted at healthcare providers or organizations. Provider and organizational factors contribute substantially to disparities and inequities in access to and quality of healthcare:</p> <p>English-language reports of evaluations of interventions that addressed one of the specific research questions:</p> <ol style="list-style-type: none"> 1. Effectiveness of healthcare quality improvement strategies for racial/ethnic minorities?; 2. Effectiveness and costs of cultural competence training? 	<p>Question 1:</p> <ul style="list-style-type: none"> • 27 articles evaluated strategies targeted at healthcare providers or organizations to improve minority healthcare quality; • The majority of these studies targeted physicians; • Most addressed aspects of prevention; • There is excellent evidence that tracking/reminder systems can improve quality of care, and fair evidence that the following can improve quality of care: multifaceted interventions, provider education interventions, and interventions that bypass the physician to offer screening services to racial/ethnic minorities; <p>Question 2:</p> <ul style="list-style-type: none"> • 64 articles addressed cultural competence training as a strategy to improve the quality of healthcare in minority populations; curricula addressed specific or general concepts of culture and were primarily group discussions and lectures; • The lack of consistency in intervention methods and measured outcomes limited the evidence synthesis; • There is excellent evidence for improvement in provider knowledge, good evidence for improvement in provider attitudes and skills, and good evidence for improvement in patient satisfaction. <p>Conclusions: <i>“There is some evidence that interventions to improve quality of healthcare for minorities, including cultural competence training, are effective. More research is needed on quality improvement strategies designed to reduce disparities. For example, interventions should target conditions and healthcare processes for which disparities have been documented. Also needed is more research on cultural competence training that uses rigorous study designs, well-described interventions and measurable objectives that are linked to process and outcome variables. Valid, reliable, and objective measurement of cultural competence is needed. As this literature grows, this information needs continued systematic review, updated on a regular basis and disseminated to clinicians, other healthcare decision-makers, educators, and the medical and health services research community.”</i></p>

Citation	Objective/Methods	Results/Conclusions
Beach (2005)	<p>Effectiveness and costs of cultural competence training for health professionals:</p> <ul style="list-style-type: none"> • Multiple databases and hand searches, 1980-June 2003; • English-language article; • No study design specified other than by exclusion; • Excluded: non-English; no original human data; abstract only; not relevant to minority health; not targeted to health professionals or organizations; no intervention evaluation or post-test only. 	<p>34 articles:</p> <ul style="list-style-type: none"> • Increasing in frequency over time; • Most are pre-post evaluations conducted in US; • Variety of curricular methods and content precluded meta-analysis; • “Excellent evidence” that cultural competence training improves knowledge: 17/19 studies showed benefit; • “Good evidence for improvement of attitudes and skills (14/14 studies); • “Good evidence” for positive impact on patient satisfaction; • Poor evidence (one study) for impact on patient adherence; • Poor evidence for costs (5 studies with incomplete data). <p>Conclusions: “Cultural competence training shows promise as a strategy for improving the knowledge, attitudes, and skills of health professionals. However, evidence that it improves adherence to therapy, health outcomes, or equity of services across racial and ethnic groups is lacking. Future research should focus on these outcomes and should determine which teaching methods and content are most effective.”</p>
Shin (2005)	<p>To resolve inconsistencies in the evidence for racial-ethnic matching for African American and Caucasian American clients and clinicians in mental health services:</p> <ul style="list-style-type: none"> • Studies published in peer-reviewed journals; • Unpublished studies, e.g., dissertations; • Focus on African Americans and Caucasian Americans of European heritage; • Findings from studies involving mental health or substance abuse counseling across the country. 	<p>21 articles met criteria. Results by outcomes reported:</p> <ul style="list-style-type: none"> • <u>Retention in treatment:</u> 2/3 studies found that retention was associated with African American clients who were not matched by race-ethnicity with their clinicians. For Caucasian Americans, being matched to clinicians of the same race-ethnicity tended to reduce dropouts. Combined in a random effects model, matching indicated a non-significant effect toward reducing attrition; • <u>Treatment tenure (average number of sessions attended):</u> African Americans who were matched tended to remain in treatment longer than those not matched (for two studies, significant at $p < .05$). Combined in random effects model: lack of matching for African Americans has a small, non-significant effect on treatment tenure. Caucasians who were matched remained in treatment longer than those who were not matched (two studies had significance at .05 level); • <u>Post-treatment functioning status:</u> For African Americans, clinicians who were not matched gave a more positive functioning assessment than those who were matched; this finding was significant ($p < .05$) in 2/5 studies, although not in the random effects model calculation. One study using client self-assessment reported a non-significant improvement in clients not matched. <p>Conclusions: “A random effects meta-analysis model showed no significant differences between client-clinician dyads matched racially-ethnically and those dyads not matched with respect to overall functioning, service retention, and total number of sessions attended. The finding was consistent for both African-American and Caucasian American clients....The authors also encourage more complete reporting of data suitable for quantitative research synthesis.”</p>

Citation	Objective/Methods	Results/Conclusions
Lawrence (2003)	<p>Effects of smoking cessation interventions relevant to racial ethnic minority populations:</p> <ul style="list-style-type: none"> • Tobacco interventions including behavioral modification component and reporting cessation outcomes (quit rates) in US minority populations; 1985-2001. 	<p>36 studies reporting quit rates:</p> <ul style="list-style-type: none"> • African Americans, 23 studies; • Asian/Pacific Islanders, 4 studies; • Native Americans, 3 studies; • Hispanics, 10 studies; • 14 papers reported statistically significant results; • Abstinence rates varied considerably (0-36%), depending on study design and intervention strategy. <p>Conclusions: <i>“The disproportionate number of studies that focused on African American smokers compared to other major racial/ethnic groups suggests the need for continued efforts to develop and evaluate the effectiveness of smoking cessation interventions for all ethnic minority populations. Abstinence rates varied considerably depending on study design and intervention strategy. Moreover, a relatively small percentage of studies that were randomized trials reported statistically significant findings, and most used strategies that do not reflect current state-of-the-art. These results strongly suggest that more research is needed to identify successful smoking cessation interventions in these populations.”</i></p>
Mize (2002)	<p>Interventions to change risky sexual behaviors among women from different ethnic backgrounds:</p> <ul style="list-style-type: none"> • Published, English-language research for the US; • Evaluating HIV prevention interventions used to modify knowledge, attitudes or behavior relevant to HIV/AIDS risk behavior in women; • Excluded: studies not specifically dealing with HIV/AIDS prevention; those targeting only men; mixed-gender studies that did not separately evaluate women; descriptions of prevention programs lacking evaluations; theoretical articles; needs assessments studies that did not provide P-values; studies that included girls under age 14; studies that did not analyze data over at least two time periods. 	<p>24 articles met inclusion criteria. Results according to outcomes reported:</p> <ul style="list-style-type: none"> • HIV/AIDS-related knowledge: significant increase for each ethnicity and time period pairing, except those for which no univariate analyses were conducted (e.g., African American and Mixed Ethnicity groups at ≥ 6 months post intervention); • Results were more variable for outcomes of self-efficacy and behavior: significant improvements in self-efficacy at post-test and ≥ 6 months follow-up in samples of mixed ethnicities, Hispanic women, and all women combined; for African American women, self-efficacy results were only significant at 6 months after intervention. <p>Conclusions: <i>“HIV prevention interventions are effective at changing knowledge, self-efficacy, and behaviors in women of all ethnicities. This is very encouraging for prevention researchers and workers who can have faith that their interventions help stem the tide of this devastating epidemic.”</i></p>

Table 3. Subsequently published review-eligible RCTs

Citation	Objective/Methods	Results/Conclusions
McManus (2010)	TASMINH2 trial: <ul style="list-style-type: none"> • Tele-monitoring/self-management vs. usual care for control of hypertension; • Patients 35-85 with BP > 140/90 in spite of antihypertensive treatment; • 24 UK general practices; • Randomization, but sample size calculation not described; • Unblinded. 	527 subjects: <ul style="list-style-type: none"> • Mean SBP decreased at 6 months in intervention group: 12.9 mmHg (CI, 10.4-15.5); and by 9.2 mmHg in controls (difference, 3.7; CI, 0.8-6.6); $p = 0.013$; • At 12 months: SBP decrease for intervention, 17.6 mmHg (CI, 24.9-20.3); controls, 12.2 (difference, 5.4; CI, 2.4-8.5; $p = 0.0004$); • Adverse effects did not differ between groups, except for leg swelling. <p>Conclusions: <i>"Self-management of hypertension in combination with tele-monitoring of blood pressure measurements represents an important new addition to control of hypertension in primary care."</i></p>
Sequist (2010)	Cluster RCT: <ul style="list-style-type: none"> • Cultural competency training and performance feedback vs. usual care to improve diabetes care for African American patients; • Primary care teams at US ambulatory care centers randomized 2007-8; • 11% of teams did not train; • Sample size calculation and details of training program reported. 	124 primary care clinicians treating 2699 black and 4858 white diabetics: <ul style="list-style-type: none"> • Baseline differences in patient demographics and processes of care NS although whites more likely to achieve control of HbA_{1c}, LDL cholesterol or blood pressure, and blacks less likely to be prescribed statins within past 12 months; • Among black patients: intervention and control groups did not differ in control of HbA_{1c}, LDL cholesterol, blood pressure, or receipt of statin prescription; • Study completion (12 months): intervention clinicians more likely to acknowledge racial disparities in all system centers, their own local centers, and among their own patients; • Black patients in intervention vs. control groups did not differ in rates of control of HbA_{1c}, LDL cholesterol, or blood pressure. <p>Conclusions: <i>"The combination of cultural competency training and race-stratified performance reports increased clinician awareness of racial disparities in diabetes care but did not improve clinical outcomes among black patients."</i></p>
Khdour (2009)	Self-management vs. usual care for COPD: <ul style="list-style-type: none"> • Intervention: pharmacist-led disease management (educational materials; medication; breathing techniques; written action plan); • Control: usual outpatient care without pharmacist-led program; • Sample size: 180 subjects; • Randomization method not reported; • Academic medical center, Belfast, Ireland; • 6 and 12 month FU. 	173 subjects: <ul style="list-style-type: none"> • Intervention group ED visits decreased by 50% ($P = 0.02$); hospitalizations by 60% ($P = 0.01$) with significant differences for symptoms, physical activity, knowledge and medication adherence; • 12 months: ED visits decreased by 50% for intervention group ($P = 0.02$) and hospitalizations by 60% (0.01); • COPD knowledge and adherence also significantly improved for intervention group. <p>Conclusions: <i>"A clinical pharmacy-led management program can improve adherence, reduce hospital care, and improve HRQoL in patients with COPD."</i></p>

Citation	Objective/Methods	Results/Conclusions
Jerant (2009)	Home-based peer-led self-management training vs. usual care for patients >40 with chronic illness: <ul style="list-style-type: none"> US academic medical center patients with arthritis, asthma, COPD, CHF, depression and/or diabetes, with functional impairment; Sample size: 120/group; Randomization by sealed envelope; Outcomes: self-efficacy; QoL; costs; mental and physical outcomes by standardized instruments. 	415 outpatients randomized: <ul style="list-style-type: none"> Intervention improved self-efficacy at 6 weeks (0.27; CI, 0.10-0.43); and 6 months, but not at 1 year; NS effects on standardized instrument mental or physical subscales. Conclusions: <i>“Despite improvements in self-efficacy comparable to those for other chronic disease self-management programs, we found limited sustained effect for the program tested here.”</i>
Schillinger (2009)	Effects of SMS for diabetes in “safety net” vulnerable population: <ul style="list-style-type: none"> Two SMS interventions: ATSM and GMV vs. usual care; San Francisco public health network clinics; SMSs and outcome instruments administered in English, Spanish, or Cantonese. 	339 patients: <ul style="list-style-type: none"> 50% limited English and/or education with poorly controlled diabetes; Both interventions showed PACIC improvements: effect sizes 0.48 and 0.50 respectively (P<0.01); Only ATSM group showed improved IPC: 0.40 vs. usual care, 0.25 vs. GMV (P<0.05); ATSM and GMV had fewer bed days/month, (0.27; P=0.05) and -2.3 days; P<0.01); and less interference with daily activities (OR, 0.37; P = 0.02); NS differences in A1C change. Conclusions: <i>“Patient-centered SMS improves some aspects of diabetes care and positively influences self-management behavior. ATDM appears to be a more effective vehicle than GMV in improving behavior and QoL.”</i>

Citation	Objective/Methods	Results/Conclusions
Sedeno (2009)	<p>Action plans with patient self-management education vs. usual care for COPD:</p> <ul style="list-style-type: none"> • “Living well with COPD” program: written action plan (recognition and response to exacerbations, including self-initiation of antibiotics and/or prednisone) with case manager support; • 12 month FU with continuing care by regular GP or specialist; • Data collection by assessors blinded to group assignment; • Outcomes: respiratory symptoms; exacerbations; medications; visits to clinics or hospital. 	<p>199 subjects enrolled:</p> <ul style="list-style-type: none"> • Intervention group, (85); control (81); • Groups similar at baseline except for smoking history (higher pack-years for controls) and renal conditions (higher for intervention); • 661 exacerbations in 166 patients (9 intervention, 11 control); • 606 exacerbations included in analysis (exclusions for lack of documentation; limited treatment, or duplication): NS difference in rate or symptom frequency between groups; • Treatment of exacerbations: antibiotics in 6.6% overall (NS between groups); corticosteroids in 57.9% (NS); • 403 exacerbations with changes in ≥ 2 major symptoms: higher rates of treatment for intervention; • 203 exacerbations with one symptom: treatment rate higher for intervention; • 229 exacerbations treated with both antibiotics and prednisone: reduced risk of hospitalization for intervention. <p>Conclusions: <i>“Our study provides evidence that a self-management program that includes a written action plan, is an effective strategy to help patients recognize COPD exacerbation symptoms and initiate treatment promptly.”</i></p>
Clark (2008)	<p>Effects of patient choice of management education program structure on outcomes:</p> <ul style="list-style-type: none"> • Women ≥ 60; • Heart disease receiving daily medication; • Randomized by sequential sealed envelopes to choice (self-selected program for disease management) or no choice (assignment to group intervention or self-directed programs) arms; • Sample size calculation reported; • Excluded: hypertension only; or physician assessment of inability to participate due to terminal illness or memory loss. 	<p>1128 subjects:</p> <ul style="list-style-type: none"> • 553 (choice group); 575 (no choice controls) after exclusions and refusals; • Choice group (assignment to plus preference for format) had better psychosocial function at 4 months ($P = 0.02$); NS trend to better physical function at 12 months; and fewer symptoms at 18 months (number of symptoms, $p = 0.0001$; frequency of symptoms, $p = 0.001$; bother of symptoms, $P = 0.001$). <p>Conclusions: <i>“Choice and preference for the group format enhanced psychosocial and physical functioning up to one year. Despite the preference for group format, over the longer term (18 months) cardiac symptoms were fewer when assigned self directed format.”</i></p>

Citation	Objective/Methods	Results/Conclusions
Kennedy (2007)	Lay-led self-care support program (“Expert Patients”) in UK: <ul style="list-style-type: none"> • Pragmatic RCT: patient participants (6 weekly sessions in self-management) with range of self-defined chronic conditions vs. waiting list controls; • CEA with trial; • Computer-generated randomization: Health Authority of origin; general health, main condition, demographics; • Sample size calculation based on Weingarten (2003): 600 patients; • Outcomes data collected at 6 months; • FU by post with telephone reminders. 	629 patients: <ul style="list-style-type: none"> • Intervention group had greater self-efficacy and energy levels at 6 months; • CEA: valuing one QALY at £ 2,000 (#39,191;€30,282) produced 70% probability that lay-led self-support program is cost-effective. <p>Conclusions: <i>“Lay-led self care support groups are effective at improving self-efficacy and energy levels among patients with long-term conditions, and are likely to be cost effective over 6 months at conventional values of a decision-maker’s willingness to pay. They may be a useful addition to current services in the management of long-term conditions.”</i></p>
Griffiths (2005)	Lay-led self-care support program (“Expert Patients”) in UK: <ul style="list-style-type: none"> • See methods for Kennedy (2007), above; • Tailored (for language and culture) to adult Bangladeshi patients with diabetes, respiratory or cardiovascular disease listed on disease registers of 10 general practices serving large Bangladeshi populations vs. wait-listed controls; • Randomization by computer; • Sample size calculation: 108/group; • Blinded ITT analysis. 	476 subjects: <ul style="list-style-type: none"> • 92% followed up; • Intervention improved self-efficacy (0.67; CI, 0.08 – 1.06) and self management behavior (0.53; CVI, 0.01 – 1.06); • 51% of subjects who attended ≥3 of the 6-weekly education sessions: greater improvement in self-efficacy (1.47; CI, 0.50 – 1.82); self management behavior (1.16; CI, 0.50 – 1.82); and reduced depression scores (0.64; CI, 0.07 – 1.22); • Communication and health service use: NS; • Program cost: £123 (€1810) per participant. <p>Conclusions: <i>“A culturally adapted CDSMP improves self-efficacy and self care behavior in Bangladeshi patients with chronic disease Effects on health status were marginal. Benefits were limited by moderate uptake and attendance.”</i></p>

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Table 4. Excluded studies (detailed exclusion criteria listed on page 3)

Citation	Reason
Adler (2010)	Quasi systematic
Edward (2009)	
Peek (2007)	
Cobden (2010)	Outside charge
Song (2010)	
Carter (2009)	
Chartier (2009)	
Downe (2009)	
Rahimi (2009)	
Vost (2008)	
Légaré (2007)	
Rendell (2007)	
Weingarten (2002)	
Wilson (2010)	Pilot study
Skinner (2008)	
Chow (2009)	Narrative
Nazario (2009)	
Chin (2007)	
Kennedy (2007a)	
O'Connor (2009)	Editorial
Rodin (2009a)	Duplicates Rodin (2009)
Scain (2009)	Not RCTs
Deinzer (2009)	
Mazze (2008)	
Rotar-Pavlič (2008)	
Richardson (2008)	Duplicates Kennedy (2007)
Wolf (2008)	Narrative
Street (2009)	
Taylor (2009)	
Peat (2010)	Quasi systematic
McGilton (2009)	
Chanthong (2009)	
Venetis (2009)	
Williams (2009)	
Finke (2008)	
Hubbard (2008)	
Smith (2007)	
Mahoney (2006)	
Pjhlips (2006)	
Rhodes (2006)	
Lorenz (2004)	
Sarkisian (2003)	
Boulware (2001)	
Beach (2006a)	Duplicates Beach (2006)
Price (2005)	Duplicates Beach (2005)

APPENDIX

Name: PATIENTCENTERED3

1. S DOUBLE()BLIND? OR RANDOM()ALLOCAT? OR RANDOM?()CONTROL?
2. S CONTROL?()CLINICAL()TRIAL? OR STUDY OR STUDIES)
3. S SINGLE()BLIND()METHOD? OR DOUBLE()BLIND()METHOD?
4. S (DOUBLE()DUMMY OR MASK OR SHAM OR PLACEBO) AND CONTROL?() (TRIAL? OR STUDY OR STUDIES)
5. S CLINICAL()TRIAL? ? OR CLINICAL TRIALS!
6. S PLACEBO/DE
7. S PLACEBO/TI,AB
8. S RANDOM?/TI,AB,DE,DT
9. S RESEARCH DESIGN/DE
10. S DT=RANDOM?
11. S META()ANALY? OR META-ANALY? OR METAANALY? OR DT=META-ANALYSIS
12. S COCHRANE () (REVIEW? OR REPORT? OR COLLABOR? OR GROUP?)
13. S S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8 OR S9 OR S10 OR S11 OR S12
14. S ANIMAL? ?/DE, GS NOT HUMAN? ?/DE, GS
15. S S13 NOT S14
16. S DOUBLE()BLIND? OR RANDOM()ALLOCAT? OR RANDOM?()CONTROL?
18. S GUIDELINE? OR CONSENSUS()DEVELOPMENT()CONFER? OR RECOMMENDATION?/TI,DE OR PROTOCOL? OR CLINICAL()PATH? OR POSITION()PAPER? OR CRITICAL()PATH?
19. S PATIENT()CENTER? OR CENTRE?) /TI,DE
20. S (PATIENT? OR PERSON? OR CLIENT?)(1N)(CENTER? OR CENTRE? OR FOCUS? OR ORIENT?)/TI,DE
21. S PROFESSIONAL?()PATIENT()RELATION?/TI,DE OR PROFESSIONAL?()FAMIL?()RELATION?/TI,DE
22. S PATIENT? ?()CARE?()MODEL? OR PARADIGM? OR MATRIX)/TI,DE
23. S (PATIENT? OR CLIENT?) (1N) (PARTNER? OR SATISFACTION? OR APPROVAL?)
24. S S21/TI,DE
25. S (PATIENT? OR CLIENT?)(PARTNER? OR SATISFACTION? OR APPROVAL?)/TI,DE
26. S S23 AND (S17 OR S18 OR S19 OR S20)
27. S S17 OR S18 OR S19 OR S20
28. S S25/HUMAN
29. S S26/ENG
30. S (S24 OR S25) AND (S9 OR S10 OR S11 OR S12 OR S16)
31. S S28 NOT S14
32. S S24 NOT S29
33. S S24 OR S29
34. S S29 NOT S24
35. S S31 AND PY=2000:2006
36. S S33 AND (ADULT? OR MIDDLE()AGE? OR ELDER? OR AGED)
37. S S33 NOT (CHILD? OR PARENT? OR PEDIATR? OR PAEDIATR?)/TI
38. S S35 NOT (FETAL? OR MIDWIFE? OR MIDWIF?)/TI
39. S S36 NOT (INFANT? OR PRENATAL?)/TI
40. S S37 AND (S1 OR S2 OR S3 OR S4 OR S9 OR S10 OR S11 OR S12 OR S16)
41. S S37 NOT S38
42. S S38 AND (S11 OR S12)
43. S S37 AND SF=HEALTH TECHNOLOGY ASSESSMENT
44. S S40 OR S41
45. S S38 NOT S42
46. S S43 NOT S14
47. S S44 AND (EVIDENCE? OR SYSTEMATIC? OR ASSESS?)/TI,DE
48. S S44 AND (PATIENT()CENTER?/TI,DE OR PATIENT()CENTRE?/TI,DE OR PATIENT?/TI OR CLIENT?/TI)
49. S S44 AND (GUIDELINE? OR PROCESS? OR PROTOCOL? OR RANDOMIZ?)/TI
50. S S42 OR S45 OR S46 OR S47
52. S S42 OR S45
53. S (S50 OR S46 OR S47) AND (S11 OR S12 OR S16 OR SYSTEMATIC?)(REVIEW?/TI,DE OR EVIDENCE/TI,DE OR GUIDELINE?/TI,DE)
54. RD
55. S S20 OR S17 OR S18 OR S23
57. S (PATIENT? OR PERSON? OR CLIENT?)(CENTER? OR CENTRE? OR FOCUS? OR ORIENT?)/TI,DE
58. S S53 OR S20 OR S17 OR S23
59. S S54 AND SF=HEALTH TECHNOLOGY ASSESSMENT
60. S S54 AND (S11/TI,DE,DT OR S12/TI,DE,DT OR S16/TI,DE,DT)
61. S S54 AND S53
62. S S57 AND SF=HEALTH TECHNOLOGY ASSESSMENT
63. S S57 AND S56
64. S S57 AND (S11/TI,DE,DT OR S12/TI,DE,DT OR S16/TI,DE,DT)
65. S S58 OR S60

67. S S62 AND PY=2000:2006
68. S63 AND (ADULT? OR MIDDLE()AGE? OR ELDER? OR AGED)
70. S S63 AND (ADULT? OR MIDDLE()AGE? OR ELDER? OR AGED)
71. S S63 NOT (CHILD? OR PARENT? OR PEDIATR? OR PAEDIATR? OR FETAL? OR MIDWIFE? OR MIDWIFE? OR INFANT? OR PRENATAL?)/TI
72. S S64 OR S65
73. S S63 AND (SYSTEMAT?()REVIEW? OR EVIDENCE?/TI,DE OR ASSESS?/TI,DE)
74. S S67 OR S66 OR S64
75. S S68 OR S63

? recall patientcentered2

Name: PATIENTCENTERED2

1. S DOUBLE()BLIND? OR RANDOM()ALLOCAT? OR RANDOM?()CONTROL?
2. S CONTROL?()CLINICAL()()TRIAL? OR STUDY OR STUDIES)
3. S SINGLE()BLIND()METHOD? OR DOUBLE()BLIND()METHOD?
4. S (DOUBLE()DUMMY OR MASK OR SHAM OR PLACEBO) AND CONTROL?() (TRIAL? OR STUDY OR STUDIES)
5. S CLINICAL()TRIAL? ? OR CLINICAL TRIALS!
6. S PLACEBO/DE
7. S PLACEBO/TI,AB
8. S RANDOM?/TI,AB,DE,DT
9. S RESEARCH DESIGN/DE
10. S DT=RANDOM?
11. S META()ANALY? OR META-ANALY? OR METAANALY? OR DT=META-ANALYSIS
12. S COCHRANE () (REVIEW? OR REPORT? OR COLLABOR? OR GROUP?)
13. S S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8 OR S9 OR S10 OR S11 OR S12
14. S ANIMAL? ?/DE, GS NOT HUMAN? ?/DE, GS
15. S S13 NOT S14
16. S DOUBLE()BLIND? OR RANDOM()ALLOCAT? OR RANDOM?()CONTROL?
18. S GUIDELINE? OR CONSENSUS()DEVELOPMENT()CONFER? OR RECOMMENDATION?/TI,DE OR PROTOCOL? OR CLINICAL()PATH? OR POSITION()PAPER? OR CRITICAL()PATH?
19. S PATIENT()()CENTER? OR CENTRE?) /TI,DE
20. S (PATIENT? OR PERSON? OR CLIENT?)(1N)(CENTER? OR CENTRE? OR FOCUS? OR ORIENT?)/TI,DE
21. S PROFESSIONAL?()PATIENT()RELATION?/TI,DE OR PROFESSIONAL?()FAMIL?()RELATION?/TI,DE
22. S PATIENT? ?()CARE?()()MODEL? OR PARADIGM? OR MATRIX)/TI,DE
23. S (PATIENT? OR CLIENT?) (1N) (PARTNER? OR SATISFACTION? OR APPROVAL?)
24. S S21/TI,DE
25. S (PATIENT? OR CLIENT?)(()PARTNER? OR SATISFACTION? OR APPROVAL?)/TI,DE
26. S S23 AND (S17 OR S18 OR S19 OR S20)
27. S S17 OR S18 OR S19 OR S20
28. S S25/HUMAN
29. S S26/ENG
30. S (S24 OR S25) AND (S9 OR S10 OR S11 OR S12 OR S16)
31. S S28 NOT S14
32. S S24 NOT S29
33. S S24 OR S29
34. S S29 NOT S24
35. S S31 AND PY=2000:2006
36. S S33 AND (ADULT? OR MIDDLE()AGE? OR ELDER? OR AGED)
37. S S33 NOT (CHILD? OR PARENT? OR PEDIATR? OR PAEDIATR?)/TI
38. S S35 NOT (FETAL? OR MIDWIFE? OR MIDWIF?)/TI
39. S S36 NOT (INFANT? OR PRENATAL?)/TI
40. S S37 AND (S1 OR S2 OR S3 OR S4 OR S9 OR S10 OR S11 OR S12 OR S16)
41. S S37 NOT S38
42. S S38 AND (S11 OR S12)
43. S S37 AND SF=HEALTH TECHNOLOGY ASSESSMENT
44. S S40 OR S41
45. S S38 NOT S42
46. S S43 NOT S14
47. S S44 AND (EVIDENCE? OR SYSTEMATIC? OR ASSESS?)/TI,DE
48. S S44 AND (PATIENT()CENTER?/TI,DE OR PATIENT()CENTRE?/TI,DE OR PATIENT?/TI OR CLIENT?/TI)
49. S S44 AND (GUIDELINE? OR PROCESS? OR PROTOCOL? OR RANDOMIZ?)/TI
50. S S42 OR S45 OR S46 OR S47

? recall patientcentered

Name: PATIENTCENTERED

1. S PATIENT()(CENTER? OR CENTRE?) /TI,DE
2. S (PATIENT? OR PERSON? OR CLIENT?)(1N)(CENTER? OR CENTRE? OR FOCUS? OR ORIENT?)/TI,DE
3. S PROFESSIONAL?()PATIENT()RELATION?/TI,DE OR PROFESSIONAL?()FAMIL?()RELATION?/TI,DE
4. S PATIENT? ?()CARE?()()MODEL? OR PARADIGM? OR MATRIX)/TI,DE
5. S (PATIENT? OR CLIENT?) (1N) (PARTNER? OR SATISFACTION? OR APPROVAL?)
6. S S5/TI,DE
7. S (PATIENT? OR CLIENT?)(()PARTNER? OR SATISFACTION? OR APPROVAL?)/TI,DE
8. S S7 AND (S1 OR S2 OR S3 OR S4)
9. S S1 OR S2 OR S3 OR S4
10. S S9/HUMAN
11. S S10/ENG